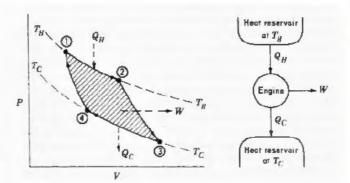
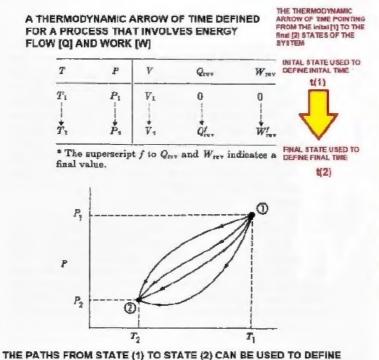
In the figure below the process from state 1 to state 4 and back to 1 can be used to construct a set of thermodynamic arrows of time pointing from state to state.

THE PROCESS
ILLUSTRATED AT
THE RIGHT COULD
BE REVERSED BY
DOING WORK ON
THE SYSTEM OR
EXTRACTING WORK
FROM THE SYSTEM



THERMODYNAMIC
'ARROWS OF TIME'
CAN BE APPLIED TO
THE PROCESS
PATHWAYS POINTING
FROM INITIAL TO
FINAL STATES ALONG
THE SYSTEM
DIAGRAM AT LEFT

NOTE THAT
APPLIED
ARROWS OF
TIME BY AN
OBSERVER ARE
SCALED USING
AN EXTERNAL
CLOCK TO
QUANTIFY THE
TIME SCALE



ALL THE
THERMODYNAMIC
LAWS ARE NOT
VIOLATED DURING
THE FORWARD
PROCESS OR ITS
PROCESS
REVERSAL

In the figure above we see that a thermodynamic arrow of time can be assigned to the process from state 1 to state 2.

PROCESS DEPENDENT THERMODYNAMIC ARROWS OF TIME 'ALONG'

THESE PATHS WHEN COMPARED TO A STANDARD CLOCK

PROCESS REVERSAL IS NOT TIME REVERSAL !!!